

Research Article

Perception of Organ Donation among Adults: A Community Based Study in an Urban Community of West Bengal

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Abstract: Though all of us agree that organ donation is the need of the hour, myths and misconceptions regarding it abounds accompanied with very poor knowledge and attitude towards this noble act. Therefore a study was conducted to find out the perception of the people regarding organ donation in an urban area of Kolkata. An observational cross-sectional type of study was done among 110 adults (aged \geq 18 yrs.) sampled by simple random sampling method. 96.5% of people completed the survey. 84.5% were aware of the term organ donation. None of them knew that apart from Eye and Kidney other organs can also be donated. 70.9% didn't have any preference towards organ donation to any particular religion. Although 35.5% would donate an organ if required only 11.8% were ready to sign a card regarding donation after death. 40.5% have said that they would take money in exchange of organ donation. Our study has found fear (63.4%) as the main reason for not donating organs followed by possible objection from family (36.6%). 40% and 43.6% of people have satisfactory knowledge and attitude respectively. It was observed by multivariate logistic regression that age, caste, education were significant covariates of satisfactory knowledge and attitude regarding organ donation. Satisfactory knowledge is an important predictor of willingness to organ donation (OR 13.5 95% CI 5.3-34.9). Mass awareness campaigns to promote organ donation activities and the fact that organ donation can bring smile to the faces of many should be percolated and imparted at both individual and community level.

Keywords: Organ donation, Perception, Knowledge, Attitude, Willingness to organ donation.

INTRODUCTION

“Organ donation is the donation of biological tissue or an organ of the human body, from a living or dead person to a living recipient in need of a transplantation”[1]. Organs can be donated by three types of donors viz., living, brain-dead and dead donors. A living donor can donate his/ her one kidney, a segment of liver, a portion of pancreas and intestine and even a lobe of lung. After cardiac death, as blood circulation stops, the solid organs become unusable for transplantation. So, solid organs like heart, lung liver, pancreas and kidney can be donated by brain-dead donors as blood still circulates in these organs at the time of retrieval. But tissues like corneas, bone, skin and heart valves can be donated within first 24 hrs. of cardiac death [2]. Experts say that the organs from one donor can save or help as many as 50 people [3]. Many people suffering from end stage organ failure die while waiting for organ donors. Organ donation not only saves the lives of dying people but also improves the quality of life of many as in case of cornea, skin, or bone transplantations. A huge demand-supply gap

exists between patients requiring transplantation and organ donors.

With the advancements in medical sciences it is no longer acceptable to let a patient die or suffer from depression because of deformity/disability when treatments to alleviate their problems are available. But these treatments become available only, when someone donates his/her organs.

Transplant recipients are not the only ones who gain from donation. Grieving donor families may also gain comfort from their choice to donate, knowing it has dramatically improved quality of life for at least one person. Their family, friends and local community also benefit by the potential contribution they make to the society after they recover.

Although in India there are many NGOs actively involved in organ donation activities, they are localized to certain regions and states and we are far lagging behind many developed countries in having organ donation activities at national level [4]. To have organ

donation activities at national level first we have to promote and increase social-acceptance of organ donation from ground level. Rumours, myths and misunderstandings about organ donation and transplantation are many. Since organ transplantation cannot succeed without the majority participation and support of the community, these urban legends are dangerous.

With this backdrop a study was planned and implemented with the objectives of ascertaining the knowledge and attitude of the people regarding organ donation and to elicit the determinants of their knowledge and attitude in an urban community of West Bengal. The result thus obtained might help the programme managers later to formulate a successful policy on promotion of organ donation.

METHODOLOGY

Study Setting

The study was an observational cross-sectional type, conducted in a slum area of Chetla, Kolkata, which is the urban field practicing area of AIHH and PH, Kolkata.

Study Population

All adults (≥ 18 yrs.) who were permanently residing in the study area was the study population

Sample Design

In a similar study [5] it was found that 78% (p) of people were aware of organ donation. Assuming this as prevalence of knowledge level sample size was calculated to be 114 taking 95% confidence level (z_{α}), 10% relative error (d) of 78% prevalence rate (P) and 5% of non-response by applying the formula ($z_{\alpha}^2 * p * q / d^2$). 114 such individuals were chosen by simple random sampling. Informed written consent was taken from them. They were also explained about the purpose of the study and that they could withdraw at any point of the interview.

Study Tool

A pre-designed and pretested schedule adapted from various studies [5-8] was used. The schedule was corrected and validated (Face, Content) by the experts of the Institute and later translated in Bengali, retranslated in English, again modifications made and finally the Bengali schedule constructed was such that it had semantic equivalence, conformed to the objectives of the study and was very simple with no ambiguity.

The schedule had two parts: (A) Socio-demographic, economic characteristics and (B) Knowledge and attitude of the people regarding organ donation. A

scoring system was used to assess the consolidated knowledge and attitude of organ donation among the study subjects. Higher the score better was the perception of the subjects.

Statistical analysis

Data was analyzed using R software (R for windows-3.1.1). Categorical variables were shown by numbers and percentages. The dependent variables were knowledge and attitude which was dichotomised as satisfactory and unsatisfactory with more than median of attained score as satisfactory knowledge and attitude. Univariate logistic regression (OR, 95% CI) was used to test significance of these variables in influencing knowledge and attitude regarding organ donation. Significant variables in bivariate analysis were further assessed by multivariate logistic regression analysis. A p value of < 0.05 was considered to be significant.

RESULTS

Out of the 114 participants selected 110 (96.5%) had completed the survey. Media (electronic and print) were their only source of information regarding organ donation. Majority of our study subjects were aged below 50 yrs. (72.7%), male (61.8%), Hindu (70%), scheduled caste (51.8%), have not passed Higher Secondary (Class XII) (82.7%), married (88.2) and living in a joint family (79.1). None of them belonged to Class I and Class II socio-economic status [9] and most of them (57.3%) belonged to Class III socio-economic status. 84.5% were aware of the term organ donation but 38.2% of them knew that it can be donated both before and after death. About half of them were aware that eye and kidney both can be donated but nobody knew about donation of other organs of the body. 20% of them know that consent for organ donation can be given by donor himself while he is still alive while 30.9% knew that consent can be given by family members in case donor is dead. 70.9% had no religious preference for organ donation and 55.5% would prefer to donate their organs to close family members and relatives only. 35.5% were willing to donate their organs if required but many of them were undecided about which organ they would donate. Fear (63.4%) constituted the main barrier to organ donation. Both bivariate and multivariate regression analysis revealed that age group, educational status and caste were significant predictors of satisfactory knowledge. Whereas knowledge although predicts attitude with statistical significance but it fails to do so when adjusted for age group, educational status and caste. Satisfactory knowledge is an important predictor of willingness to organ donation (OR 13.5 95% CI 5.3-34.9).

Table 1: Knowledge of the study subjects regarding organ donation (n=110)

Variable	Frequency (%)	Score
1. Aware of the term organ donation		
Yes	93 (84.5)	1
No	17 (15.5)	0
2. Organ donation means removal of organs from		
Both living and dead	42(38.1)	2
Dead bodies only	51 (46.4)	1
Don't know	17 (15.5)	0
3. Organs that can be donated		
Eyes only	39 (35.5)	1
Eye and kidney only	54 (49.0)	2
Bone-marrow, Pancreas, Heart, Liver, Lung	0 (0.0)	5
Don't know	17 (15.5)	0
4. Consent for organ donation when donor is alive is given by		
Donor himself	22 (20.0)	2
Family/Spouse/Relatives	19 (17.3)	1
Don't know	69 (62.7)	0
5. Consent for organ donation when donor is dead is given by		
Family/Spouse/Relatives	34 (30.9)	2
No one / doctor	45 (40.9)	1
Don't know	31 (28.2)	0
6. There are laws regarding organ donation		
Yes	80 (72.7)	1
No/ Don't Know	30 (27.3)	0
7. One can pledge to donate his/her organs after death		
Yes	59 (53.6)	1
No/ Don't know	51 (46.4)	0

Table 2: Attitude of Study Subjects regarding organ donation

Perceptions regarding organ donation: (n=110)	Frequency (%)	Score
1. If required, one should donate organs to:		
i. Any one	49 (44.5)	3
ii. Family members and close relatives	61 (55.5)	1
iii. None	0(0.0)	0
2. If required, one should donate organs to persons of: (n=110)		
i. Any age group	57 (51.8)	3
ii. Elder age group	0(0.0)	1
iii. Middle age group	0(0.0)	1
iv. Younger age (<30 yrs.)	53 (48.2)	1
v. None	0(0.0)	0
3. If required, one should donate organs to persons belonging to : (n=110)		
i. Any one	78 (70.9)	4
ii. Same religion	32 (29.1)	1
iii. None	0(0.0)	0
4. If required, I would want to donate an organ : (n=110)		
i. Yes	39 (35.5)	3
ii. Undecided	14 (12.7)	1
iii. No	57 (51.8)	0
5. I am ready to sign a card now to donate my organs after death: (n=110)		
i. Yes	13 (11.8)	4
ii. Undecided	1 (0.9)	1
iii. No	96 (87.3)	0
6. If required, I would want to donate : (n=110)		
i. Eyes and Kidney	4 (3.6)	4
ii. Eyes only	21 (19.1)	2
iii. Undecided	28(25.5)	1
iv. None	57 (51.8)	0
7. I would take money in exchange of organ donation, if I ever donate an organ: (n=110)		
i. Yes	44 (40.0)	0
ii. Undecided	2 (1.8)	1
iii. No	64 (58.2)	3
8. I don't want to donate because: (n=71)		
i. Would be objection from family	26 (36.6)	
ii.		
• It is harmful to the donor	24 (33.8)	
• Don't want to be cut	21 (29.6)	

Table 3: Grading and frequency distribution of Knowledge and Attitude according to scores attained (n=110)

Variables	Minimum attainable score	Maximum attainable score	Median (IQR)	More than Median No. (%)	Less than or equal to Median No. (%)
Knowledge	0	14	7 (5-8)	Satisfactory knowledge 44 (40.0)	Unsatisfactory knowledge 66 (60.0)
Attitude	0	24	10 (8-13)	Satisfactory attitude 48 (43.6)	Unsatisfactory attitude 62 (56.4)

Table 4: Covariates of Satisfactory knowledge and attitude regarding organ donation (n=110)

Variables	Total (%)	Satisfactory Knowledge No. (%)	OR (95%CI)	AOR (95% CI)	Satisfactory Attitude No. (%)	OR (95% CI)	AOR (95% CI)
Age							
<=25 yrs.	23 (20.9)	14 (60.9)	15.5 (3.5-69.4)	13.6 (2.9-64.7)	14 (60.9)	4.42 (1.6-11.9)	3.33 (1.1-10.1)
26-50 yrs.	57 (51.8)	28 (49.1)			28 (49.1)		
(>=51 yrs.)	30 (27.3)	2 (6.7)	1	1	6 (20.0)	1	1
Sex							
Male	68 (61.8)	28 (39.7)	1.1 (0.5-2.4)	-	29 (42.0)	1	-
Female	42 (38.2)	16 (39.0)	1	-	19 (46.3)	1.2 (0.6-2.6)	-
Religion							
Hinduism	77 (70.0)	30 (39.0)	1	-	30 (39.0)	1	-
Islam	33 (30.0)	14 (42.4)	1.2 (0.5-2.6)	-	18 (54.5)	1.9 (0.8-4.3)	-
Caste							
General	53 (48.2)	28 (52.8)	2.9 (1.3-6.3)	4.4 (1.6-11.9)	29 (54.7)	2.4 (1.1-5.2)	2.7 (1.1-6.7)
Scheduled caste	57 (51.8)	16 (28.1)	1	1	19 (33.3)	1	1
Educational Status							
Below higher secondary	91 (82.7)	28 (30.8)	1	1	33 (36.3)	1	1
Higher secondary and above	19 (17.3)	16 (84.2)	12.0 (3.2-42.5)	11.9 (2.7-53.9)	15 (78.9)	6.6 (2.0-21.5)	5.4 (1.4-20.1)
Occupation							
Non-earning	46 (41.8)	17 (37.0)	1.2 (0.6-2.7)	-	23 (50.0)	0.6 (0.3-1.4)	-
Earning	64 (58.2)	27 (42.2)	1	-	25 (39.1)	1	-
Marital Status							
Unmarried	13 (11.8)	6 (46.2)	1.3 (0.4-4.3)	-	4 (30.8)	1	-
Married	97 (88.2)	38 (39.2)	1	-	44 (45.4)	1.9 (0.5-6.5)	-
Family Type							
Nuclear	23 (20.9)	13 (56.5)	2.4 (0.9-5.9)	-	12 (52.2)	1.6 (0.6-3.9)	-
Joint	87 (79.1)	31 (35.6)	1	-	36 (41.4)	1	-
Socio-Economic Status (Prasad's socio-economic status classification) [9]							
Class III (Rs. 1671-2785)	63 (57.3)	26 (41.3)	0.9 (0.4-1.9)	-	26 (41.3)	1.2 (0.6-2.7)	-
Class IV (Rs.8361670)	42 (38.2)	15 (35.7)	1	-	17 (40.5)	1	-
Class V (< Rs.836)	5 (4.5)	3 (60.0)			5 (100.0)		
Knowledge Level							
Unsatisfactory	66 (60.0)	-	-	-	21 (31.8)	1	1
Satisfactory	44 (40.0)	-	-	-	27 (61.4)	3.4(1.5-7.6)	1.2(0.5-3.2)
Nagelkerke's R square				0.455	-	-	0.267
Hosmer and Lemeshow test				0.356	-	-	0.326

Table 5: Association of willingness to donate with Knowledge (n=110)

Variable		Willingness to donate		Total No. (%)	ODDS RATIO (95% CI)
		No/Undecided No. (%)	Yes No. (%)		
Knowledge	Unsatisfactory	57 (86.4)	9 (13.6)	66	1
	Satisfactory	14 (31.8)	30 (68.2)	44	13.5(5.3-34.9)

DISCUSSION

We did our study with the aim to find out the prevalent knowledge and attitude of the people regarding organ donation in an urban community of West Bengal. Analysis of our data brought out some interesting facts.

It was very appreciative that 96.5 % of the slum dwellers responded to the schedule pertaining to such an uncommon but an important topic. For all of them have media (mainly TV and newspapers) as the most important source of information. In our study it was found that 84.5% were aware of the term organ donation which was almost similar to a study (86 %) done in Faisalabad [8] and slightly better than a study (78%) done among adults of Kakati Village [5] in South India. In our study 38.5% knew that organs can be donated by both living and dead donors which is better than studies conducted in Karachi [6] (23%), among college students in Chennai [11] (28.86%) and in Kakati village (6%) [5]. People were aware about eye and kidney donation but were completely unaware that other organs like heart, liver, lung, pancreas, etc. can also be donated. Other studies [5, 6, 11] have shown that there is some awareness regarding other organs which can also be donated. Knowledge regarding who can give consent for donation while alive and after death is far less than the results found in studies in Karachi [6] and Chennai [11]. It was interesting to find out that 72.7% people know that there are certain laws regarding organ donation which is again much better than some studies [8, 11, 14] done in various other places. In our study 55.5% thought that one should donate organs to their family members and close relatives this figure was much more than the observation made in a study among adults Kakati village (32.6%) [5], and among students in Chennai (12.7%) [11] and 51% of people in Karachi [6] were of similar opinion. 70.9% believed that organs should be donated to persons belonging to any religion which is a better scenario than in other studies [5, 6, 8] perhaps it is because of the closer bonding of the people belonging to different religion in the congested slum area. 35.5% were willing to donate if required which is better than few studies [5, 10] but much less than many other studies [6, 11, 12]. It was interesting to know that although 35.5% were willing to donate, only 11.8% were ready to sign a card to pledge their organs after death. It somewhat showed the low level of motivation among the people in the study area. 40% were of them opined that they would take money in exchange of organ donation while just 23.5% of the under-graduate medical students in South India [14] had similar attitude. This was mainly because most of them

belonged to marginalized section of the society. As in concordance with other studies [6, 8, 14] our study has also found fear (63.4%) as the main reason for not donating organs followed by possible objection from the family members (36.6%). Knowledge was significantly associated with age group, caste and educational status in both bivariate and multivariate regression. Knowledge along with other variables viz. age group, caste and educational status were significantly associated with attitude on bivariate regression but lost its significant association on multivariate regression. Other studies done in Karachi [6] and Faisalabad [8] had also shown almost similar findings. Knowledge level is an important determinant for willingness to donate organ which is in line with the reports of other studies [6, 10].

CONCLUSION

Mass awareness campaigns to improve the knowledge and attitude of the people regarding organ donation and thereby promotion of it should be done at the local level, so that the social acceptance increases and fear decreases. People should be motivated to donate their organs after death and they should communicate their wish to donate, to their family members and relatives. They should understand that organ donation is the best gift one can give to any person and it can give a new lease of life and bring smile to the faces of many.

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